

AMENDMENTS TO THE DRAWINGS:

The attached replacement sheet includes changes to Fig. 1. This sheet, which includes Fig. 1, replaces the original sheet including Fig. 1. As shown in the Annotated Sheet, Fig. 1 amended from "Conventional Art" to -Prior Art-, as requested in the Office Action. This is not an admission of prior art.

Attachment: Replacement Sheet
Annotated Sheet Showing Changes

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REMARKS

Claims 46-89 are pending in this application. By this Amendment, the specification and FIG. 1 are amended, claims 1-45 are canceled without prejudice or disclaimer and new claims 46-89 are added.

The Office Action objects to the disclosure because of informalities. In particular, the Office Action objects to the usage of "conventional" on page 8, lines 6 and 16. The Office Action does not provide any basis for why this terminology is not acceptable. However, to further prosecution, applicants have amended pages 8-9 to change "conventional" to --previously known--. Pages 9 and 10 have also been amended as suggested in the Office Action. Withdrawal of the objection is respectfully requested.

The Office Action rejects claims 39-40 and 44 under 35 U.S.C. §112, second paragraph, and rejects claims 43-44 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. By this Amendment, claims 39-40 and 43-44 are canceled. Thus, the rejections under 35 U.S.C. §112 are moot.

The Office Action rejects original claims 1-3, 6-8, 11-14, 17-20, 22, 25, 36-38, 41-42 and 45 under 35 U.S.C. §103(a) over various combinations of U.S. Patent 5,603,096 to Gilhousen et al. (hereafter Gilhousen), U.S. Patent 6,389,034 to Guo et al. (hereafter Guo), EP 1 067 729 A2 to Samamoto, WO 00/149000 to Rezaiifar et al., GB 2269298A to Wong and U.S. Patent 6,069,883 to Ejzak et al. The applied references do not teach or suggest all the features of claims 46-89.

Gilhousen describes that a mobile station varies a transmit power for each frame according to the frame's transmission rate, and a base station monitors a signal to noise ratio (SNR) of the transmitted signals and instructs the mobile to change its power accordingly such that the mobile station transmitter may operate at a 100% duty cycle. See Gilhousen's col. 4, lines 40-48.

More specifically, Gilhousen requires the use of assumed data rates that are compared with the actual data rate. The base station maintains a table of SNR threshold values for each possible data rate that the mobile station might use. See col. 4, line 64-col. 5, line 5. Upon comparison, a different power control command is generated for each SNR versus SNR threshold comparison. See col. 5, lines 5-15. These generated multiple commands are sent to the mobile station, which then must choose the power control command corresponding to the data rate at which data is transmitted. See col. 4, lines 10-26.

Gilhousen describes that the power control commands are encoded in one, two or three bits of the frame according to various embodiments. See cols. 9-10. In all Gilhousen's disclosed embodiments, the mobile decides how to use each power control command bit based on three factors: (1) the value of the bit; (2) the actual data rate used for the power control group; and (3) the assumed data rate pattern that was used to compute the power control bit. See col. 11, lines 8-15.

Regarding the "no change" in data transmission rate feature of Gilhousen, if the first command bit is "turn down" and the second command bit is "turn up", the mobile assumes that there was an error or a "no change" is desired. This is inaccurate and inefficient since it can not

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be distinguished whether the power control bits were sent or received in error or whether the mobile actually should not change its transmission rate. See col. 10, lines 6-19.

In contrast, applicant's present specification describes a more simple and effective approach. For example, the present specification describes that the base station determines a data rate control command for each mobile station to consider a channel condition or state of each mobile station. This may be achieved by considering various factors of each mobile station such as an interference level, a transmission condition and status. As a result, the mobile station may only need to check the data rate control command sent from the base station (i.e., check the value of the rate control bit RCB) to adjust (increase/decrease) or to maintain its data transmission rate. The data rate control bit being mapped to a symbol of '0' clearly indicates that the mobile should maintain its current data transmission rate.

More specifically, independent claim 46 recites determining at a base station a data rate control command for controlling a transmission data rate of each mobile station to consider a channel condition or state of each mobile station. Independent claim 46 also recites sending each data rate control command via a forward common channel in a dedicated manner to the mobile stations, the data rate control command being formed of at least one rate control bit that is signal point mapped to at least one symbol of +1, -1, and 0 to indicate whether the mobile station should increase, decrease, or maintain its current data transmission rate. Gilhousen does not teach or suggest that the rate control bit being signal point mapped to indicate whether the mobile station should increase, decrease, or maintain its current data transmission rate, as recited in independent claim 46.

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Gou does not teach or suggest the missing features of independent claim 46. More specifically, Gou describes that the base station determines varying data rates for the terminals and instructs the terminal by means of a PDCB or FL CPDC packet data rate or flow control message. See Gou's col. 5, lines 25-35. This general statement does not provide specific details as to how a mobile terminal should increase, decrease, or maintain its current data transmission rate. Gou also does not teach or suggest how to handle when a data transmission should be maintained. Accordingly, Gou does not teach or suggest the missing features of independent claim 46.

For at least the reasons set forth above, Gilhousen and Gou, either alone or in combination, do not teach or suggest determining at a base station a data rate control command for controlling a transmission data rate of each mobile station to consider a channel condition or state of each mobile station in combination with sending each data rate control command via a forward common channel in a dedicated manner to the mobile stations, the data rate control command being formed of at least one rate control bit that is signal point mapped to at least one symbol of +1, -1, and 0 to indicate whether the mobile station should increase, decrease, or maintain its current data transmission rate. The other applied references do not teach or suggest these features of claim 46 missing from Gilhousen and Gou. Accordingly, independent claim 46 defines patentable subject matter at least for this reason.

Independent claim 69 recites determining means adapted to determine a data rate control command for controlling a transmission data rate of each mobile station to consider a channel condition or state of each mobile station. Independent claim 69 also recites that the data rate

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control command being formed of at least one rate control bit that is signal point mapped to at least one symbol of +1, -1, and 0 to indicate whether the mobile station should increase, decrease, or maintain its current data transmission rate. For at least similar reasons as set forth above, the applied references to not teach or suggest these features. Accordingly, independent claim 69 defines patentable subject matter at least for this reason.

Independent claim 79 recites that the data rate control command being formed of at least one rate control bit that is signal point mapped to at least one symbol of +1, -1, and 0 to indicate whether the mobile station should increase, decrease, or maintain its current data transmission rate. For at least similar reasons as set forth above, the applied references to not teach or suggest these features. Accordingly, independent claim 79 defines patentable subject matter at least for this reason.

Independent claim 85 recites that the data rate control command being formed of a least one rate control bit that is signal point mapped to at least one symbol of +1, -1, and 0 to indicate whether the mobile station should increase, decrease, or maintain its current data transmission rate. For at least similar reasons as set forth above, the applied references to not teach or suggest these features. Accordingly, independent claim 85 defines patentable subject matter at least for this reason.

For at least the reasons set forth above, each of independent claims 46, 69, 79 and 85 define patentable subject matter. Each of the dependent claims depends from one of the independent claims and therefore defines patentable subject matter at least for this reason. In

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addition, each of the dependent claims recites features that further and independently distinguish over the applied references.

CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 46-89 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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ANNOTATED SHEET



FIG. 1
~~CONVENTIONAL ART~~
PRIOR ART

